

WHAT IS CLAIMED IS:

1. A method of reducing an effect of unwanted signal portions from one or more signals usable to determine a physiological characteristic of pulsing blood, the method comprising:

receiving first and second intensity signals from light-sensitive detector which detects light of at least first and second wavelengths attenuated by body tissue carrying pulsing blood, wherein the first and second intensity signals each include wanted and unwanted signal portions;

shaping at least some of the unwanted signal portions away from wanted frequencies;

removing at least some of the shaped unwanted signal portions; and

calculating a physiological characteristic of the pulsing blood from at least one of the wanted signal portions of the first and second intensity signals.

2. The method of Claim 1, wherein a noise shaping converter shifts the unwanted signal portions.

3. The method of Claim 2, wherein the noise shaping converter comprises a delta sigma converter.

4. The method of Claim 3, wherein the delta sigma converter comprises a single channel converter.

5. The method of Claim 3, wherein the delta sigma converter comprises a dual channel converter.

6. The method of Claim 1, wherein the physiological characteristic comprises oxygen saturation of the pulsing blood.

7. The method of Claim 1, wherein the physiological characteristic comprises a pulse rate of the pulsing blood.

8. The method of Claim 1, wherein the physiological characteristic comprises a plethysmographic waveform.

9. The method of Claim 1, wherein the shaping of the at least some of the unwanted signal portions away from the wanted frequencies further comprises shifting the at least some of the unwanted signal portions to higher frequencies.

10. A physiological monitor which uses a noise shaping converter to remove unwanted portions of signals usable to determine one or more physiological characteristics, the physiological monitor comprising:

at least one conductive element which receives first and second intensity signals from light-sensitive detector which detects light of at least first and second wavelengths attenuated by body tissue carrying pulsing blood, wherein the first and second intensity signals each include wanted and unwanted signal portions;

a noise shaping converter which shapes at least some of the unwanted signal portions away from unwanted frequencies;

means for removing at least some of the shifted unwanted signal portions; and

means for calculating a physiological characteristic of the pulsing blood from at least one of the wanted signal portions of the first and second intensity signals.

11. The method of Claim 10, wherein the noise shaping converter comprises a delta sigma converter.

12. The method of Claim 11, wherein the delta sigma converter comprises a single channel converter.

13. The method of Claim 11, wherein the delta sigma converter comprises a dual channel converter.

14. The method of Claim 10, wherein the physiological characteristic comprises oxygen saturation of the pulsing blood.

15. The method of Claim 10, wherein the physiological characteristic comprises a pulse rate of the pulsing blood.

16. The method of Claim 10, wherein the physiological characteristic comprises a plethysmographic waveform.

17. The method of Claim 10, wherein the noise shaping converter shapes the unwanted signal portions by shifting the at least some of the unwanted signal portions to higher frequencies.